

**Mellerson, Kendra**

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**From:** Hendrickson, Stuart  
**Sent:** Thursday, June 26, 2003 12:21 PM  
**To:** Mellerson, Kendra  
**Subject:** need equivalent

1754

9007 -

Please find ASAP equivalent for Japanese 08-031422 published 2/2/96 filed 7/19/94 and assigned to Nippon Steel.  
Thanks  
stuart

(more 13 Nov)

**WEST**

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**Search Results - Record(s) 1 through 2 of 2 returned.**☐ 1. Document ID: JP 08031422 A

L2: Entry 1 of 2

File: JPAB

Feb 2, 1996

PUB-NO: JP408031422A

DOCUMENT-IDENTIFIER: JP 08031422 A

TITLE: CARBON MATERIAL FOR NEGATIVE ELECTRODE OF LITHIUM SECONDARY BATTERY AND MANUFACTURE THEREOF

PUBN-DATE: February 2, 1996

## INVENTOR-INFORMATION:

NAME

COUNTRY

SUZUKI, KIMIHITO

IIJIMA, TAKASHI

MUKAI, KOICHIRO

## ASSIGNEE-INFORMATION:

NAME

COUNTRY

NIPPON STEEL CORP

NIPPON STEEL CHEM CO LTD

APPL-NO: JP06187926

APPL-DATE: July 19, 1994

INT-CL (IPC): H01 M 4/58; H01 M 4/02

## ABSTRACT:

PURPOSE: To obtain the carbon powder as the material for negative electrode of a lithium secondary battery, which has a large discharging capacity, a high charging and discharging efficiency from the initial stage of the cycle and the excellent cycle characteristic.

CONSTITUTION: As the carbon material for negative electrode of a lithium secondary battery, graphitized carbon powder, which is adjusted by heating the carbon powder made of pitch in the existence of boron compound, is used, and  $CTE \leq 3.0 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$ ,  $d_{002} \leq 0.337 \text{ nm}$ ,  $L_c \geq 40 \text{ nm}$ ,  $R \geq 0.6$ . Existence ratio of the boron in the graphitized carbon material is set at 0.01-15 weight %. At the time of manufacturing the carbon negative electrode material, boron compound at 20 weight % by boron conversion is mixed with the carbon powder made of pitch, and heated at  $2500^\circ\text{C}$  for 0.1-10 hours under the inert atmosphere. As the boron compound, at least one of boron, boron carbide, boron oxide and boric acid is used.

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC
Draw	Desc	Image									

☐ 2. Document ID: JP 08031422 A

L2: Entry 2 of 2

File: DWPI

Feb 2, 1996

DERWENT-ACC-NO: 1996-144168  
DERWENT-WEEK: 199615  
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TITLE: Carbon@ material for lithium sec. battery negative electrode - comprising graphitised powder obtd. by heating in presence or boron cpd. giving improved charging and discharging properties

## PATENT-ASSIGNEE:

ASSIGNEE	CODE
NIPPON STEEL CHEM CO	YAWH
NIPPON STEEL CORP	YAWA

PRIORITY-DATA: 1994JP-0187926 (July 19, 1994)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 08031422 A	February 2, 1996		013	H01M004/58

## APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 08031422A	July 19, 1994	1994JP-0187926	

INT-CL (IPC): H01 M 4/02; H01 M 4/58

ABSTRACTED-PUB-NO: JP 08031422A  
BASIC-ABSTRACT:

A carbon material is a graphitised carbon powder obtd. by heating a carbon powder in the presence of a boron cpd.. CTEat most $3.0 \times 10^{-6}$ -10-6deg.C-1, d002at most0.337 nm, Lc40 nm and R0.6.

ADVANTAGE - Charging and discharging efficiency can be improved.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: CARBON@ MATERIAL LITHIUM SEC. BATTERY NEGATIVE ELECTRODE COMPRISE GRAPHITISE POWDER OBTAIN HEAT PRESENCE BORON COMPOUND IMPROVE CHARGE DISCHARGE PROPERTIES

DERWENT-CLASS: L03 X16.

CPI-CODES: L03-E01B3;

EPI-CODES: X16-E01; X16-E01C;

## SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1996-045111  
Non-CPI Secondary Accession Numbers: N1996-120938

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC
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